ADDENDUM NO 4.

Bidding and Contract Documents

For

Deicer Management System T. F. Green State Airport Warwick, Rhode Island

RHODE ISLAND AIRPORT CORPORATION

February 6, 2013

PREPARED BY: Gresham, Smith and Partners 155 East Broad Street, Suite 900 Columbus, Ohio 43215

NOTICE TO PROSPECTIVE BIDDERS

ADDENDUM NO. 4

Prospective Bidders and all concerned are hereby notified of the following changes in the Contract Documents for DEICER MANAGEMENT SYSTEM at the T. F. GREEN STATE AIRPORT. These changes shall be incorporated in and shall become an integral part of the contract documents. The number (No. 4) and date (2/6/13) of this addendum must be entered into the space provided on Page P-4 of the Proposal Form. These changes will be incorporated into the Conformed Contract Documents to be issued to the successful bidder.

CONTRACTOR'S QUESTIONS

- Q1. Sheet D-336: Pipe #3155-BG-2 is shown as Stainless Steel and Carbon Steel. Is pipe #3155 Stainless Steel?
- A1. Pipe 3155-BG-2 should be black iron pipe (BI). This type of pipe should be included in the natural gas piping system bid Item No.34.
- Q2. Sheet D-336: Approximate Stainless Steel take-off is well in excess of 600 feet. Bid item No. 83 shows 404 feet. What quantity should be used for bid purposes?
- A2. The correct amount for the stainless steel bid line item (bid item No. 83) is 490 feet. Answer A1 should resolve the issue with the contractor's amount being in excess of 600 feet. An issue was identified with the plastic pipe amount (bid item No. 84). The correct bid amount is 450 feet.
- Q3. Sheet D-336: Valve HV-3151 & HV-3152 are not listed in the treatment system valve schedule. What type of valves are required for the biogas system? What is the specification for valves in the biogas system?
- A3. Valves HV-3151 and HV-3152 have been added to the valve schedule on D-628. The specification is given in the valve schedule.
- Q4. Sheet D-336: Valves HV-2991, HV-2992, HV-2993 & HV-2994 are not listed in the treatment system valve schedule. What are the required valve types? What is the specification?
- A4. These valves are listed as HV-3191, HV-3192, HV-3193, and HV-3194 in the valve schedule (D-623). The valve numbers are revised, see Addendum Item #15 in the following section.
- Q5. When a conflict between detail drawings and P&ID drawings occur, what drawing takes precedence?
- A5. For a general detail, i.e. one that applies to more than one location, the P&ID shown is specific to the unit and has precedence. Between the mechanical piping drawings and P&IDs there is no *precedence*. If a conflict is noticed between a piping drawing and P&ID, bring it to the Engineer's attention.
- Q6. Drawing D-322 has an Inlet Riser Table that lists the discharge centerlines of the 3 force mains discharging into the DM tanks as follows:

 FM-C: E = 25.54, FM-T: E= 25.54, FM-E: E = 25.54
 - The tank finished floor elevation is E=27.5, therefore the above discharge elevations appear to be incorrect. Please clarify.
- A6. On sheet D-322, the Inlet Riser table elevations for FM-C, FM-T and FM-E shall be changed to EL. 57.84.

- Q7. Can we get the Collection System Valve Schedule on an Excel spreadsheet so we can forward it to our valve vendors. That would be from Drawings: D-611, 613, 620, 621, 622, 623, 624, 625, 626, 627, 628.
- A7. The valve schedule in Excel format is included as an attachment to this addendum. D-613 is not included because the sheet does not include a valve schedule.
- Q8. On page 4 of 12 it is indicated the normal sludge quantity is 20 gpm (70 lbs./hr.) and design is 40 gpm (150 lbs./hr.) On page 9 the dewatering performance requirement is listed as 20 gpm. For 20 to 30 GPM Andritz would use the model D2LL which matches the bowel diameter (10") and length of 45" For 40 GPM we have offer the D3L which the bowel diameter will be 13.4 and the length will be 49.5" The HP of the [main drive motor] is listed as 15 which will be small for either case. Would you please advise how I should proceed?
- A8. There appear to be missing words in the original question. "Main drive motor" is assumed to be the 15 hp equipment referenced in the question. This text is inserted into the question in brackets for clarification.
 - The specification Sludge Dewatering Equipment (44 4616) is revised to a typical operation of 10 gpm (70 lbs./hr.) and a maximum capacity of 20 gpm (140 lbs./hr.). Include whatever equipment is required for your manufactured unit. The equipment parameters listed are minimums based on the available information from listed manufacturers.
- Q9. Section 43 4117 Prestressed Concrete Storage Tanks HIGHLIGHTS 1.4 Administrative Requirements
 - top of dome cannot exceed EL 64' [approx. 44' above grade] With a Dome ref. line = 58.42, this would require a dome rise-to-span ration of 1:23.
 - temporary construction equipment cannot exceed EL 75' [approx. 55' above grade]

3.3 Installation

Paragraph P requires a decorative coating system consisting of one coat cementitious damp-proofing and one coat acrylic on exterior dome surface; two coats 100% acrylic on exterior wall surfaces. Because Preload constructs domes by the cast-in-place method [rather than the precast method], we apply two coats 100% acrylic on the entire exposed surface of the tank [walls and dome]. We therefore request that you revise the specification to allow a decorative coating system consisting of two coats 100% acrylic on the entire exposed surface of the tank [walls and dome].

Sheet D-121 – HIGHLIGHTS

- Eccentrically sloped finished floor; FFE = 27.5 @ wall
- $Min\ finished\ grade = 30.5$

- Max finished grade = 33.5, so tanks are primarily above grade
- Dome ref. line = 58.42
- Max design liquid level = 57.50 [from Sheet D-321]

Sheet D321 – HIGHLIGHTS

- Note on Wall Section calls for CIM Coating on floor and lower 3' of walls Sheet D-324
 - Detail for dome handrail in spite of dome max EL 64' from Spec Section 43 4117

With the IDs of the tanks = 129', the lowest profile dome we can realistically offer is one with a 1:12 rise-to-span ratio; this would correspond to a Dome Rise = 10'-9" or 10.75'. With the Dome Ref line = 58.42, the resultant dome height would be EL 69.17; this exceeds the maximum dome elevation of EL 64' from Spec Section 43 4117.

A9. The specification Prestressed Concrete Storage Tank (43 4117) is revised to maximum top of dome height cannot exceed EL 127 MSL (approximately 92.5' above grade) and a temporary construction equipment cannot exceed EL 137 MSL (approximately 102.5' above grade).

The decorative coating system lists the minimum requirement. Additional layers/thicknesses may be applied if that is the manufacturer's standard method.

PROJECT MANUAL

DIVISION 0 – PROPOSAL FORMS

ADDENDUM ITEM NO. 1

DELETE the amount for Item No. 83, Stainless Steel Process Pipe and Fittings, "404 LF" and **REPLACE** with "490 LF".

ADDENDUM ITEM NO. 2

DELETE the amount for Item No. 84, Plastic Process Pipe, <=4" "114 LF" and **REPLACE** with "450 LF".

DIVISION 43 – TECHNICAL SPECIFICATIONS

ADDENDUM ITEM NO. 3

On page 43 4117-3, Item 1.4.A.1.a **DELETE** "Top of dome cannot exceed EL 64' (approx. . 92.5' above grade)" and **REPLACE** with "Top of dome cannot exceed EL 127' (approx. . 92.5' above grade)".

ADDENDUM ITEM NO. 4

On page 43 4117-3, Item 1.4.A.1.b **DELETE** "Temporary construction equipment cannot exceed EL 75' (approx. 55' above grade)" and **REPLACE** with "Temporary construction equipment cannot exceed EL 137' (approx. 102.5' above grade)".

DIVISION 44 – TECHNICAL SPECIFICATIONS

ADDENDUM ITEM NO. 5

On page 44 4616-4, table under Item 2. Sludge Quantity **DELETE** "20 gpm" and "40 gpm" and **REPLACE** with "10 gpm" and "20 gpm", respectively.

CONTRACT DRAWINGS

ADDENDUM ITEM NO. 6

On Drawing No. D-111, make the following changes:

• **DELETE** sheet and **REPLACE** with attached sheet.

ADDENDUM ITEM NO. 7

On Drawing No. D-115, make the following changes:

• **DELETE** sheet and **REPLACE** with attached sheet.

ADDENDUM ITEM NO. 8

On Drawing No. D-161, make the following changes:

• To Detail B2, ADD callout of "Manhole Steps" to Discharge Flow Vault.

ADDENDUM ITEM NO. 9

On Drawing No. D-162, make the following changes:

• In Detail A2, **DELETE** callout to "Ladder" and **REPLACE** with "Manhole Steps".

ADDENDUM ITEM NO. 10

On Drawing No. D-311, make the following changes:

DELETE sheet and **REPLACE** with attached sheet.

ADDENDUM ITEM NO. 11

On Drawing No. D-312, make the following changes:

• To Detail A4 **ADD** callout of "Manhole Steps" to Terminal Monitoring Structure.

ADDENDUM ITEM NO. 12

On Drawing No. D-315, make the following changes:

DELETE sheet and **REPLACE** with attached sheet.

ADDENDUM ITEM NO. 13

On Drawing No. D-316, make the following changes:

• To Detail A3 ADD callout of "Manhole Steps" to Cargo Monitoring Structure.

ADDENDUM ITEM NO. 14

On Drawing No. D-322, make the following changes:

• In Detail A1, **DELETE** the Invert Riser Elevations in "25.54" in three places in the table and **REPLACE** with "57.84" in three places.

ADDENDUM ITEM NO. 15

On Drawing No. D-336, make the following changes:

- In Detail C1, **DELETE** "HV-2931", "HV-2932", "HV-2933", and "HV-2934" and **REPLACE** with "HV-3131", "HV-3132", "HV-3133", and "HV-3134".
- In Detail C1, DELETE "3102-BG-2"-SS" and REPLACE with "3102-BG-3"-SS".

ADDENDUM ITEM NO. 16

On Drawing No. D-361, make the following changes:

• In Detail D2, **ADD** callout of "Manhole Steps" to Discharge Flow Vault.

ADDENDUM ITEM NO. 17

On Drawing No. D-362, make the following changes:

• In Detail C1, **DELETE** callout to "Ladder" and **REPLACE** with "Manhole Steps".

ADDENDUM ITEM NO. 18

On Drawing No. D-511, make the following changes:

• In Detail A1, **DELETE** callout to "Ladder" and **REPLACE** with "Manhole Steps" in two locations.

ADDENDUM ITEM NO. 19

On Drawing No. D-623, make the following changes:

• In the Treatment System Valve Schedule Table **DELETE** the size for HV-3191, HV-3192, HV-3193, and HV-3191 as "1" and **REPLACE** with "1/2".

ADDENDUM ITEM NO. 20

On Drawing No. D-628, make the following changes:

• **DELETE** sheet and **REPLACE** with attached sheet.

ADDENDUM ITEM NO. 21

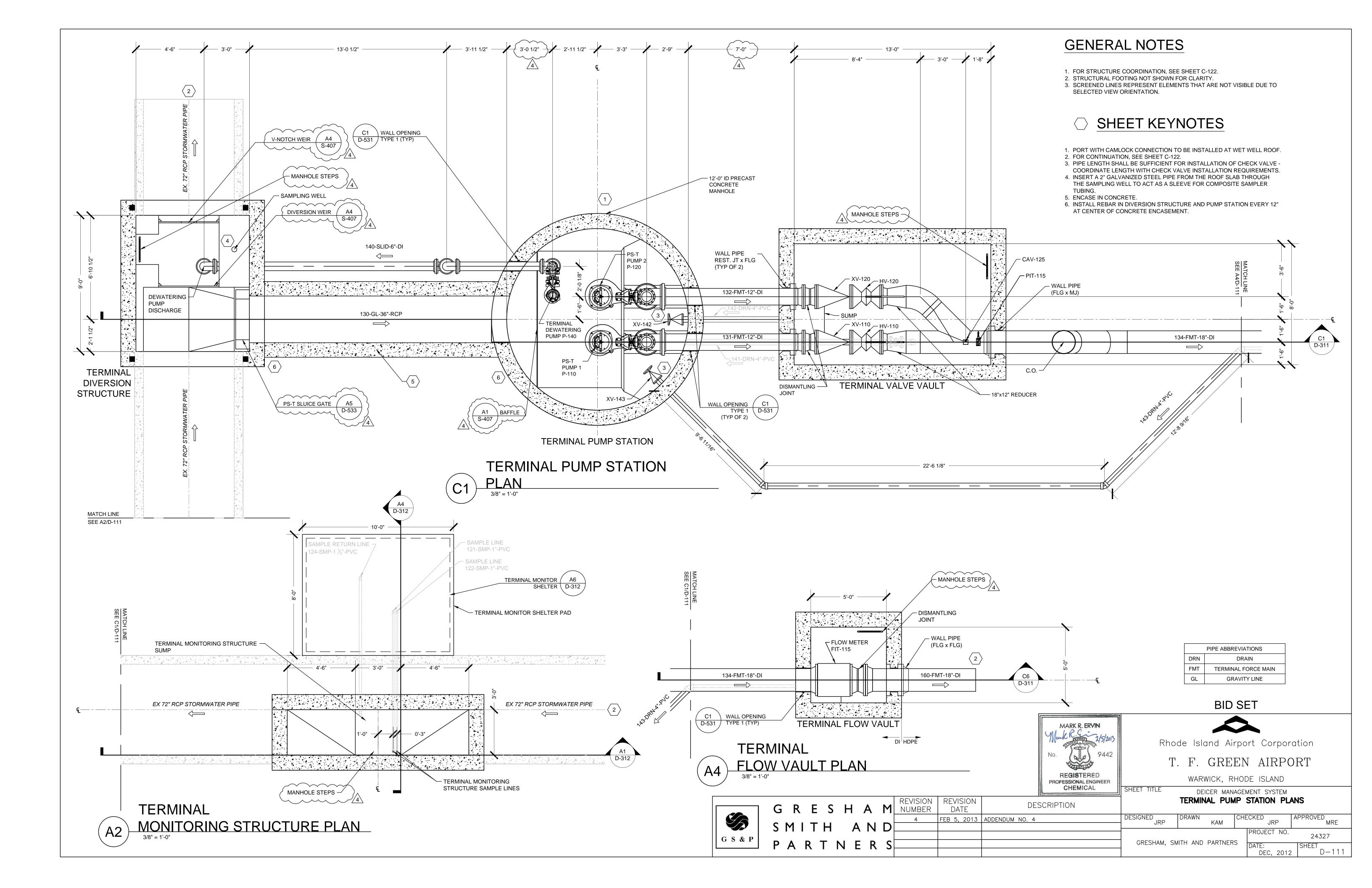
• **ADD** sheet S-407, attached sheet.

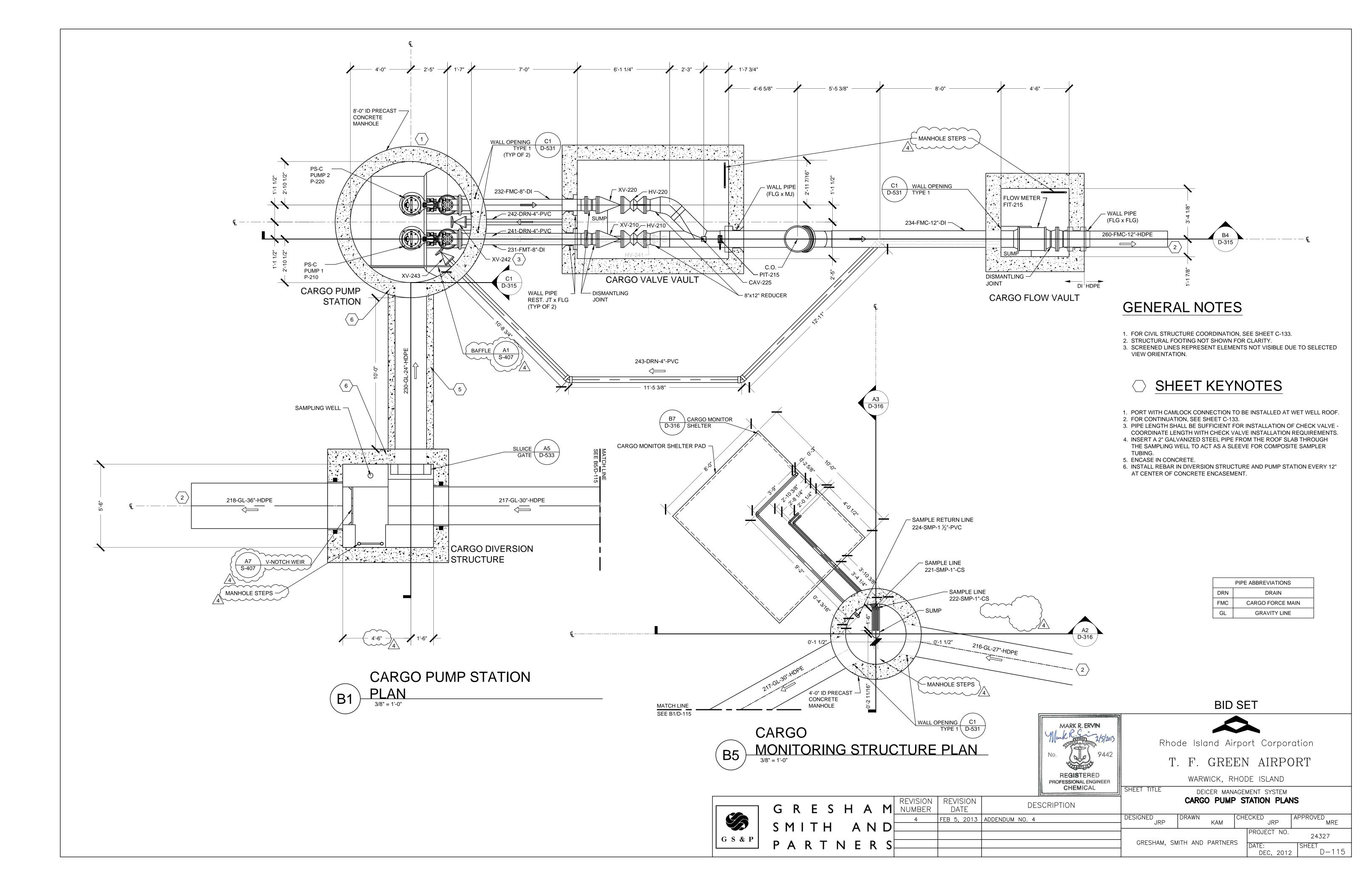
Note that Addendum No. 4 consists of 7 pages of text, 6 drawings, and one Excel spreadsheet file.

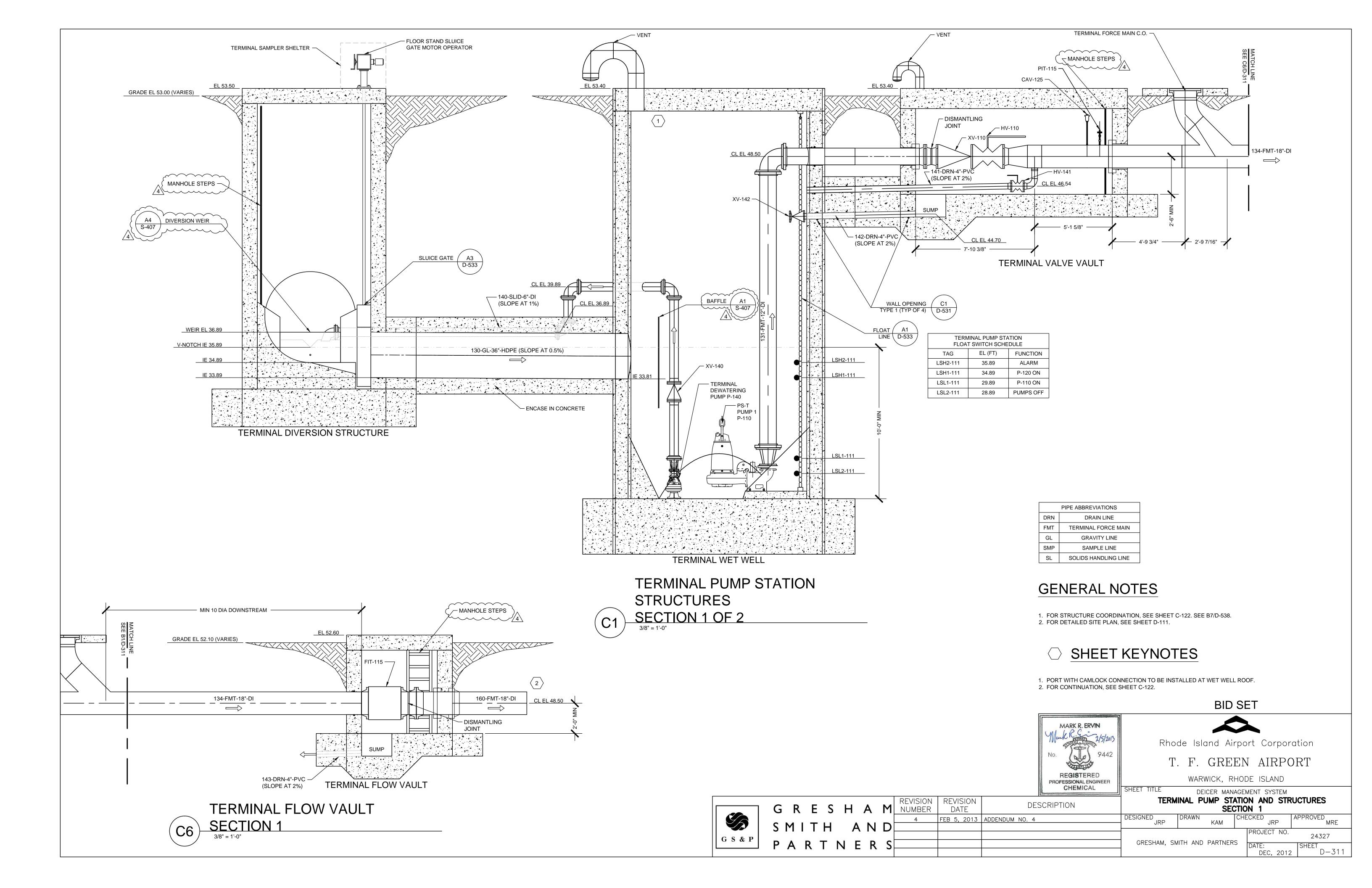
APPROVED BY: Date:

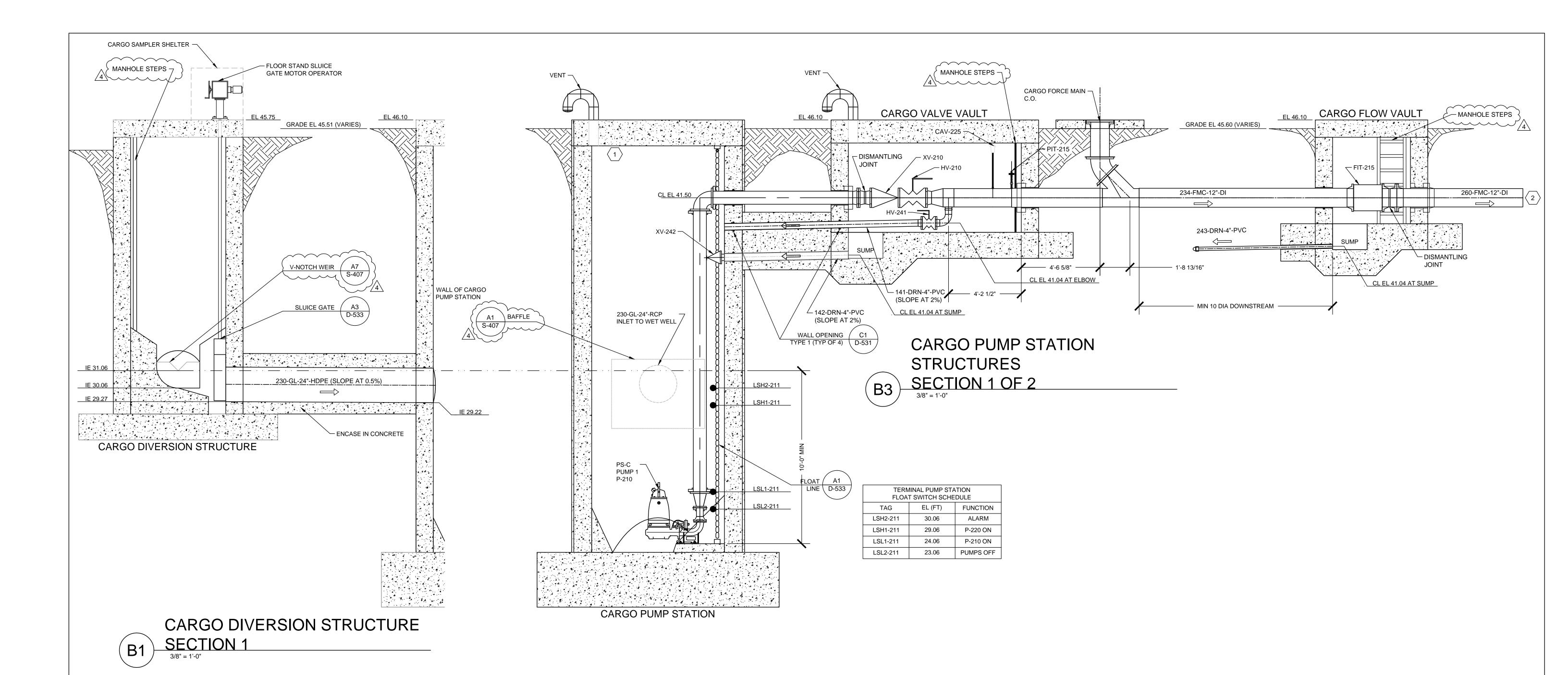
RIAC Signature

END OF ADDENDUM No. 4







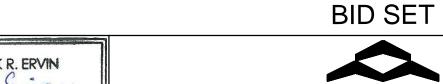


PIPE ABBREVIATIONS					
DRN	DRAIN LINE				
FMC	CARGO FORCE MAIN				
GL	GRAVITY LINE				

GENERAL NOTES

- 1. FOR STRUCTURE COORDINATION, SEE SHEET C-133.
- 2. FOR DETAILED SITE PLAN, SEE SHEET D-115.

- 1. PORT WITH CAMLOCK CONNECTION TO BE INSTALLED AT WET WELL ROOF. SEE B7/D-538.
- 2. FOR CONTINUATION, SEE SHEET C-133.



Rhode Island Airport Corporation

T. F. GREEN AIRPORT

WARWICK, RHODE ISLAND

D-315

DEC, 2012

GRESHAM, SMITH AND PARTNERS

CHEMICAL

SHEET TITLE

DEICER MANAGEMENT SYSTEM

CARGO PUMP STATION AND STRUCTURES

SECTION 1

PART NERS

PART NERS

DESCRIPTION

GRESHAM, SMITH AND PARTNERS

DEICER MANAGEMENT SYSTEM

CARGO PUMP STATION AND STRUCTURES

SECTION 1

PROJECT NO. 24327

DATE: SHEET

SHEET TITLE

DEICER MANAGEMENT SYSTEM

CARGO PUMP STATION AND STRUCTURES

SECTION 1

PROJECT NO. 24327

DATE: SHEET

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SHEET TITLE

DEICER MANAGEMENT SYSTEM

CARGO PUMP STATION AND STRUCTURES

SECTION 1

PROJECT NO. 24327

DATE: SHEET

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DATE: SHEET

DEICER MANAGEMENT SYSTEM

CARGO PUMP STATION AND STRUCTURES

SECTION 1

PROJECT NO. 24327

REGISTERED

PROFESSIONAL ENGINEER

TREATMENT SYSTEM VALVE SCHEDULE 9

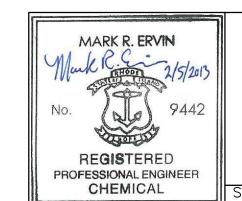
VALVE LETTER	VALVE NUMBER	TYPE	PIPE DIAMETER [IN]	OPERATION	ACTUATOR	CONNECTION	SPECIFICATION SECTION	SERVICE	LOCATION	P&ID SHEET NUMBER
HV	- 2893	BUTTERFLY	4	MANUAL	L	FLG	40 0523	HWS	LOW-LOSS HEADER	D-791
HV	- 2894	BUTTERFLY	4	MANUAL	L	FLG	40 0523	HWS	LOW-LOSS HEADER	D-791
HV	- 2895	BUTTERFLY	4	MANUAL	L	FLG	40 0523	HWS	LOW-LOSS HEADER	D-791
HV	- 2896	BUTTERFLY	4	MANUAL	L	FLG	40 0523	HWS	LOW-LOSS HEADER	D-791
HV	- 2897	BUTTERFLY	4	MANUAL	L	FLG	40 0523	HWS	LOW-LOSS HEADER	D-791
HV	- 2898	BUTTERFLY	4	MANUAL	L	FLG	40 0523	HWS	LOW-LOSS HEADER	D-791
HV	- 5111	BALL	2	MANUAL	L	THD	40 0523	PW	POTABLE WATER SERVICE	D-791
HV	- 5114	BALL	2	MANUAL	L	THD	40 0523	PW	POTABLE WATER SERVICE	D-791
HV	- 5115	BALL	2	MANUAL	L	THD	40 0523	PW	BOILER EXPANSION TANK	D-791
XV	- 2808	CHECK	3	AUTOMATIC	NA	FLG	40 0523	HWR	HOT WATER RETURN	D-791
XV	- 2831	CHECK	3	AUTOMATIC	NA	FLG	40 0523	HWS	BOILER DISTRIBUTION PUMP 1	D-791
XV	- 2841	CHECK	3	AUTOMATIC	NA	FLG	40 0523	HWS	BOILER DISTRIBUTION PUMP 2	D-791
XV	- 5113	CHECK	2	AUTOMATIC	NA	THD	40 0523	PW	POTABLE WATER SERVICE	D-791
BPR	- 3229	BACK PRESSURE REGULATOR	2	AUTOMATIC	NA	THD	40 0523	CA	COMPRESSED AIR RECEIVER	D-792
HV	- 3201	BALL	2	MANUAL	L	THD	40 0523	CA	COMPRESSED AIR RECEIVER	D-792
HV	- 3202	BALL	2	MANUAL	L	THD	40 0523	CA	COMPRESSED AIR RECEIVER	D-792
HV	- 3260	BALL	1/2	MANUAL	L	THD	40 0523	CA	COMPRESSED AIR TANK 1	D-792
HV	- 3261	BALL	1/4	MANUAL	L	THD	40 0523	CA	COMPRESSED AIR TANK 1	D-792
HV	- 3262	BALL	1/4	MANUAL	L	THD	40 0523	CA	COMPRESSED AIR TANK 1	D-792
HV	- 3263	BALL	1/2	MANUAL	L	THD	40 0523	CA	COMPRESSED AIR TANK 1	D-792
HV	- 3280	BALL	1/2	MANUAL	L	THD	40 0523	CA	COMPRESSED AIR TANK 2	D-792
HV	- 3281	BALL	1/4	MANUAL	L	THD	40 0523	CA	COMPRESSED AIR TANK 2	D-792
HV	- 3283	BALL	1/4	MANUAL	L	THD	40 0523	CA	COMPRESSED AIR TANK 2	D-792
HV	- 3284	BALL	1/2	MANUAL	L	THD	40 0523	CA	COMPRESSED AIR TANK 2	D-792
PRV	- 3261	PRESSURE RELEASE	1	AUTOMATIC	NA	THD	40 0523	CA	COMPRESSED AIR TANK 1	D-792
PRV	- 3201	PRESSURE RELEASE	1	AUTOMATIC	NA	THD	40 0523	CA	COMPRESSED AIR RECEIVER	D-792
PRV	- 3281	PRESSURE RELEASE	1	AUTOMATIC	NA	THD	40 0523	CA	COMPRESSED AIR TANK 2	D-792
XV	- 3262	CHECK	1/2	AUTOMATIC	NA	THD	40 0523	CA	COMPRESSED AIR TANK 1	D-792
XV	- 3282	CHECK	1/2	AUTOMATIC	NA	THD	40 0523	CA	COMPRESSED AIR TANK 2	D-792
ZV	- 3260	THREE-WAY	1/4	MANUAL	PISTON	THD	40 0523	CA	COMPRESSED AIR TANK 1	D-792
ZV	- 3280	THREE-WAY	1/4	MANUAL	PISTON	THD	40-0523	CA	COMPRESSED AIR TANK 2	D-792
HV	- 3151	BUTTERFLY	3	MANUAL	L	FLG	40 0523	BG	SOLIDS COLLECTION TANKS	D-775
\HV	- 3152	BUTTERFLY	4	MANUAL	L	FLG	40 0523	BG	SOLIDS COLLECTION TANKS	D-775

GENERAL NOTES

1. FOR LIST OF SERVICE LINES, SEE SHEET D-001.

	ABBREVIATIONS
BPR	BACK PRESSURE REGULATING VALVE
BPV	BACK PRESSURE VALVE
FCV	FLOW CONTROL VALVE
FLG	FLANGED
HV	HAND VALVE
HW	HANDWHEEL
L	LEVER
MJ	MECHANICAL JOINT
NA	NOT APPLICABLE
PRV	PRESSURE RELEASE VALVE
PVR	PRESSURE REGULATING VALVE
SG	SLUICE GATE
SV	SOLENOID VALVE
THD	THREADED
XV	CHECK VALVE
ZV	THREE-WAY POSITION VALVE

BID SET

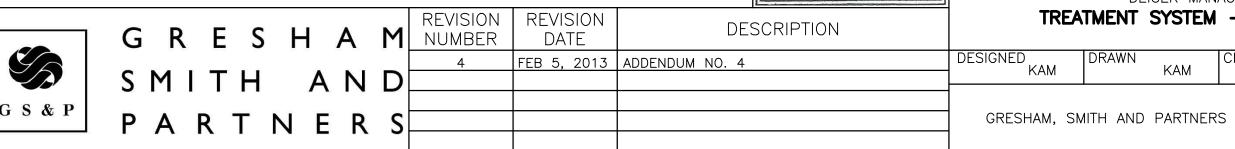


Rhode Island Airport Corporation

T. F. GREEN AIRPORT

WARWICK, RHODE ISLAND

SHEET TITLE



DEICER MANAGEMENT SYSTEM

TREATMENT SYSTEM — VALVE SCHEDULE 9

PROJECT NO. 24327 DATE: SHEET D-628

GENERAL NOTES

NOT USED.

SHEET KEYNOTES

2"x2"x3/8" ANGLE IRON -

V-NOTCH WEIR PLAN

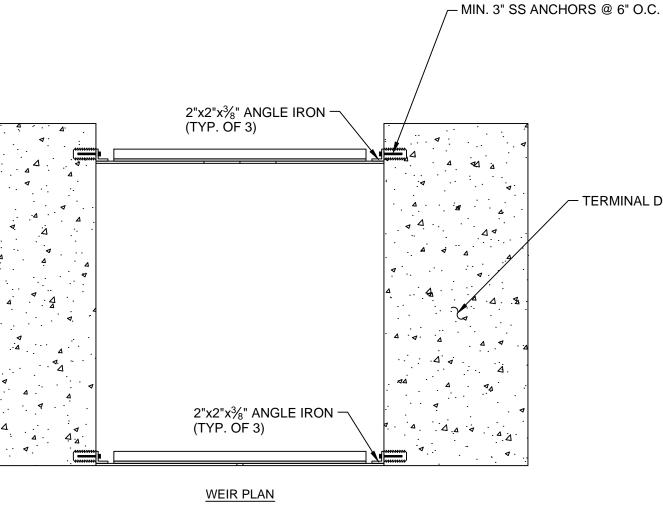
V-NOTCH WEIR ELEVATION

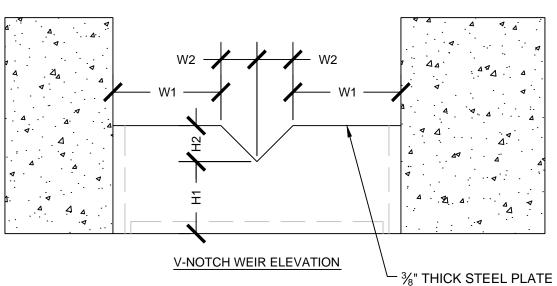
CARGO WEIR DIMENSIONS

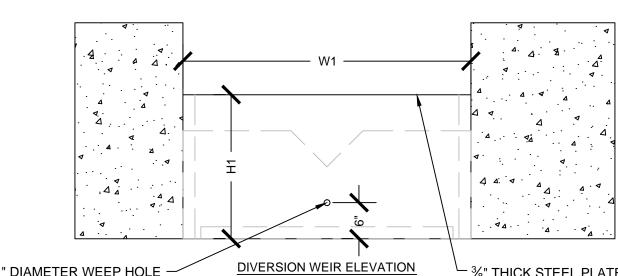
CARGO DIVERSION STRUCTURE

(TYP. OF 3)

1. NOT USED.

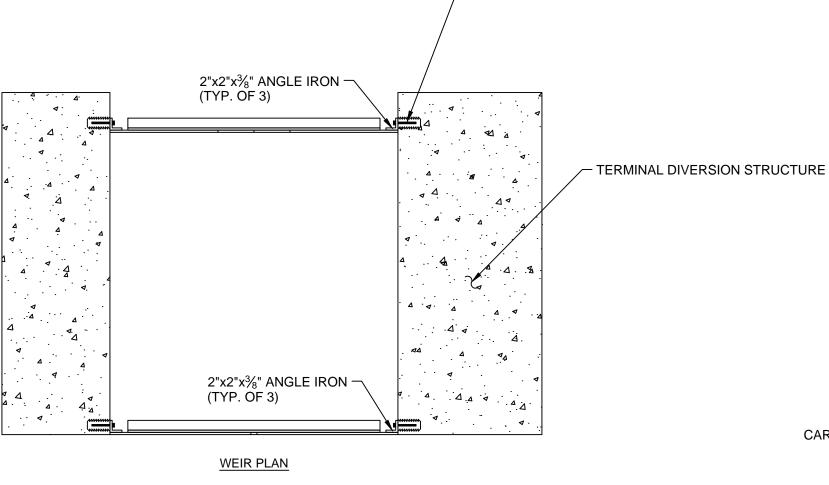


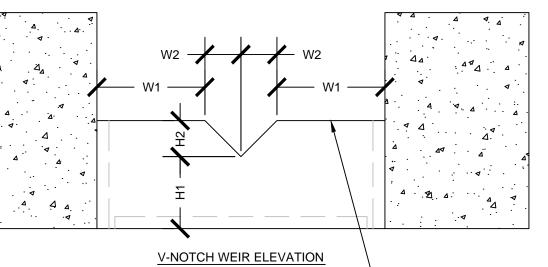


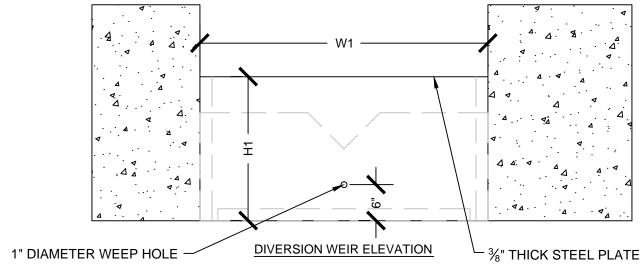


TERMINAL WEIR DIMENSIONS						
WEIR	H1	H2	W1	W2		
V-NOTCH	12"	6"	18"	6"		
DIVERSION	24"	N/A	48"	N/A		

WEIR DETAILS





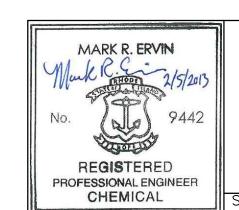


TERMINAL DIVERSION STRUCTURE



CARGO DIVERSION STRUCTURE -

WEIR DETAILS **BID SET**



Rhode Island Airport Corporation T. F. GREEN AIRPORT

WARWICK, RHODE ISLAND

DEICER MANAGEMENT SYSTEM

STRUCTURAL DETAILS SHEET TITLE



1	G	R	E	S	F	1	Α	Μ	REVI NUM
	S	M	ΙT	Н		Α	Ν	D	2
<u></u>	P	Α	R	T	Ν	Ε	R	S	

REVISION NUMBER	REVISION DATE	DESCRIPTION	
4	FEB 5, 2013	ADDENDUM NO. 4	DESIGNED K
			GRESH <i>A</i>
		NUMBER DATE	DESCRIPTION

CHECKED 000 PROJECT NO. 24327 HAM, SMITH AND PARTNERS

– MIN. 3" SS ANCHORS @ 6" O.C.

- 3/8" THICK STEEL PLATE



WET WELL BAFFLE DETAIL

- WET WELL STRUCTURE

BAFFLE PLAN

MIN. 5" SS ANCHORS @ 6" O.C. -

 \sim 2"x2"x $\frac{3}{8}$ " ANGLE IRON

(TYP. OF 2)

DIVERSION PIPE OUTLINE -

BAFFLE ELEVATION

TERMINAL

WET WALL BAFFLE DIMENSIONS 36" | 12" | 13.5" | 36" | 12" 54" 18" 26.5" 54" 24"

─ ¾" THICK STEEL PLATE